

FILE 'USPAT' ENTERED AT 13:02:41 ON 28 NOV 94

=> s network# (5a) (configuration? or statistic? or bug (2a) (report# or update#) or software or pric?) (p) (sever? or host?)

106570 NETWORK#

515317 CONFIGURATION?

28911 STATISTIC?

1314 BUG

42886 REPORT#

33863 UPDATE#

36019 SOFTWARE

41590 PRIC?

742344 SEVER?

42881 HOST?

L1 404 NETWORK# (5A) (CONFIGURATION? OR STATISTIC? OR BUG (2A) (REPOR
T# OR UPDATE#) OR SOFTWARE OR PRIC?) (P) (SEVER? OR HOST?)

=> s 11/ab

16728 NETWORK#/AB

39705 CONFIGURATION?/AB

1387 STATISTIC?/AB

69 BUG/AB

664 REPORT#/AB

2533 UPDATE#/AB

1922 SOFTWARE/AB

1164 PRIC?/AB

33330 SEVER?/AB

4323 HOST?/AB

L2 8 (NETWORK#/AB (5A) (CONFIGURATION?/AB OR STATISTIC?/AB OR BUG/AB
B (2A) (REPORT#/AB OR UPDATE#/AB) OR SOFTWARE/AB OR PRIC?/AB)
(P) (SEVER?/AB OR HOST?/AB))

=> s 11 and 395/200,600/ccls

1667 395/200,600/CCLS

((395/200 OR 395/600)/CCLS)

L4 59 L1 AND 395/200,600/CCLS

=> s 14 not 12

L5 57 L4 NOT L2

FILE 'USPAT' ENTERED AT 14:15:56 ON 28 NOV 94

=> s network# (5a) (configuration? or statistic? or bug (2a) (report# or update#) or informa? (2a) (software or pric?)) (p) (server? or host?)

2726 SERVER?

42881 HOST?

L1 172 NETWORK# (5A) (CONFIGURATION? OR STATISTIC? OR BUG (2A) (REPOR
T# OR UPDATE#) OR INFORMA? (2A) (SOFTWARE OR PRIC?)) (P) (SERV
ER? OR HOST?)

=> s 11/ab

327 SERVER?/AB

L2 1 (NETWORK#/AB (5A) (CONFIGURATION?/AB OR STATISTIC?/AB OR BUG/AB
(2A) (REPORT#/AB OR UPDATE#/AB) OR INFORMA?/AB (2A) (SOFTWARE/AB
OR PRIC?/AB)) (P) (SERVER?/AB OR HOST?/AB))

=> s 11 and 395/200,600/ccls

L3 33 L1 AND 395/200,600/CCLS

1. 5,347,384, Sep. 13, 1994; Fiber optic distribution of image data;

John M. McReynolds, et al., 359/118, 152, 167, 174; 364/713 [IMAGE

ABSTRACT:

A fiber optic data distribution system for distributing image data between a data storage system and a plurality of image workstations using embedded control signals and a fiber optic link. The data storage system, a **host** computer, and a plurality of image workstations are all coupled together by way of a local area **network**. The **host** computer includes **network** **software** and associated files that provide control information and functions for the distribution system. The **host** computer controls access to the distribution system by setting up the data storage system and workstations and initiating data

*Access
Control*

information on demand from console 52 or **host** adapter 32 to the network.

SYSTEM:OS - DIALOG OneSearch

File 2: File 6: File 8: File 211: File 233: File 239: File 256:
File 275: File 674: File 675:

? s network? (5n) (configuration? or statistic? or bug? (2n) (report? or update?) or informa? (2n) (software or pric?)) (s) (server? or host?)

Completed processing all files

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776146 NETWORK?
362676 CONFIGURATION?
589229 STATISTIC?
21142 BUG?
1269060 REPORT?
123842 UPDATE?
1017 BUG?(2N) (REPORT? OR UPDATE?)
1175503 INFORMA?
982732 SOFTWARE
331553 PRIC?
17596 INFORMA?(2N) (SOFTWARE OR PRIC?)
145185 SERVER?
102949 HOST?
S2 2937 NETWORK? (5N) (CONFIGURATION? OR STATISTIC? OR BUG? (2N)
(REPORT? OR UPDATE?) OR INFORMA? (2N) (SOFTWARE OR
PRIC?)) (S) (SERVER? OR HOST?)
? s s2 (s) (communicat? or transmi?)
2937 S2
661066 COMMUNICAT?
489689 TRANSMI?
S3 600 S2 (S) (COMMUNICAT? OR TRANSMI?)
? s py>1992
S4 1203914 PY>1992
? s s3 not s4
S5 466 S3 NOT S4
? s s5 and (market? (2n) report?)
466 S5
489346 MARKET?
1269060 REPORT?
4717 MARKET?(2N)REPORT?
S6 6 S5 AND (MARKET? (2N) REPORT?)
? s s5 (s) authori?
466 S5
64301 AUTHORI?
S8 7 S5 (S) AUTHORI?
? s2 not s4
2652571 2
1203914 S4
S9 2370244 2 NOT S4
? s s2 not s4
2937 S2
1203914 S4
S10 1919 S2 NOT S4
? s s5 (s) authori?
S11 7 S5 (S) AUTHORI?
? s s10 (s) authori?
S12 19 S10 (S) AUTHORI?
? s s10 and (market? (2n) report?)
1919 S10
489346 MARKET?
1269060 REPORT?
4717 MARKET?(2N)REPORT?
S13 9 S10 AND (MARKET? (2N) REPORT?)
```

Display 12/7,K/1 (Item 1 from file: 2)

Record

DIALOG(R) File 675:Computer ASAP(TM)

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12787987 *This is the FULL TEXT*

IBM announcements. (Product Announcement)

Computergram International PAGINATION: CGI10020015

PUBLICATION DATE: Oct 2, 1992

ARTICLE TYPE: Product Announcement

AVAILABILITY: FULL TEXT Online LINE COUNT: 00097

SOURCE FILE: CD File 275

OPERATING PLATFORM(S): IBM PS/2; Token-Ring; Ethernet; AIX; OS/2

PRODUCT NAME(S): RouteXpander/2* (Computer network software) - Product

introduction; AIX Systems Monitor/6000 (Network management software) -

Product introduction; AIX NetView Hub Management Program/6000 (Network

management software) - Product introduction; IBM Token Ring Network

16/4 Adapter II (Communications board) - Product introduction

COMPANY NAME(S): International Business Machines Corp. - Product

introduction
DESCRIPTORS: Product Introduction; Network software; Network management

software; Communications boards/cards

SIC CODE: 3571; 7372

ISSN: 0268-716X

IBM ANNOUNCEMENTS

RouteXpander/2.1.0 carries multiple protocols

over a single link under OS/2

RouteXpander/2, an OS/2 licensed program, transports multiple protocols, including TCP/IP, SNA APPN, and NetBIOS, over a single physical link, using either a Frame Relay or point-to-point connection. RouteXpander/2 can be used as a 6611 Data Link Switching feeder node to an upstream 6611 Network Processor. When combined with the new Wide Area Connector adaptor, RouteXpander/2 provides wide area network communication up to 2.048Mbps. These speeds are supported by a high-speed Frame Relay network and through direct attachment to 6611 routers and other RouteXpander/2 workstations. By acting as a feeder node, RouteXpander/2 offers applications access to Frame Relay and router networks without requiring a dedicated processor. RouteXpander/2 communicates with another copy of RouteXpander/2 over a non-switched, point-to-point link. To provide access to Frame Relay, bridge, and router networks, RouteXpander/2 exploits OS/2 communications protocol products including TCP/IP for OS/2 and Extended Services for OS/2 - SNA/APPN and NetBIOS. It acts as a network driver interface specification interface to provide a Token Ring local network appearance to the higher-level protocols. It converts header information to Frame Relay formats then writes the data to a communications driver through a lower NDIS interface. Emulating Token Ring means the protocol products can be configured as if they are communicating with another workstation. In fact, RouteXpander/2 provides access via the wide area network. If routing is not possible, the packet will be bridged. RouteXpander/2 interoperates with another copy and with the native bridge support of the 6611 Network Processor over a Frame Relay network or via a point-to-point link. Frame Relay support enables the single port to connect to 200 other bridges in the Frame Relay network. Available December 18 1992 in the US, the package is \$800 and additional licences are \$715.

AIX Systems Monitor/6000 for local nets

AIX Systems Monitor/6000 Release 1 is a licensed program that provides user-configurable systems management of local area network nodes and segments from the RS/6000. Systems Monitor/6000 provides fault and performance management including automation capabilities from managed nodes rather than from a central AIX NetView/6000. It offloads polling tasks from the network management system to the managed systems, while maintaining centralised management control for both network and systems management. Systems Monitor/6000 provides local and remote systems monitoring of systems data like CPU utilisation, system processes and disk usage via SNMP. Trap filtering, thresholding analysis and command execution functions provided by Systems Monitor/6000 can be configured by the user to ensure that only vital systems data is forwarded to the network administrator at the network management box. The SM/6000 End User Interface application provides a menu-driven X/Motif interface for manipulating and displaying the data provided by SM/6000 subagents from a centralised AIX NetView/6000 location. The End User Interface can execute on both AIX NetView/6000 Version 1 Release 1 or Version 2 Release 1. To be available on March 26 1993 in the US, System Monitor/6000 costs \$750 and a distributed systems licence option is \$675.

AIX NetView Hub Management Program/6000 Package

AIX NetView Hub Management Program/6000 is said to facilitate and expand the management of local area networks with 8250 Multiprotocol Intelligent hubs from IBM's new partner Chipcom Inc. Operating on the RS/6000 with AIX Version 3.2 and AIX NetView/6000 Version 1, it collects and reports statistics per hub port and per network, and offers local security by preventing unauthorised users from accessing the network. IBM claims that network management for 8250 hubs is enhanced by a graphical interface for fault, configuration, operations and change management. Also, the program exploits the 8250 hub and its Simple Network Management Protocol extended management information base to assign individual ports or modules to a network or to isolate modules from the backplane for troubleshooting. The monitoring and display functions include display of hub status; of module and port configuration status; display of module and port assignment per network; display of station addresses; display and logging of alarm conditions and messages; and the display and logging of local area network traffic statistics. Configuration and control of modules in the hub include resetting the hub and modules; reassigning modules or ports; configuration of fault-tolerant operation for media module ports; assignment of authorised addresses for media module ports; configuration of media-specific parameters for modules and ports; upgrade and control of microcode level for management modules; and remote login via Telnet to management modules, bridge modules and terminal server module. Available December 18, the package is \$6,500 and additional licences are \$6,450.

Token-Ring Network 16/4 Adaptor II

The Token-Ring Network 16/4 Adaptor II is an adaptor designed to operate in AT bus PS/2 systems. It supports operation at either 16Mbps or 4Mbps over unshielded twisted pair or Cabling System media. Remote initial program load comes standard. Unshielded twisted pair support provides the option of using telephone twisted pair or the Cabling System, and device drivers operate with major network operating systems. Remote program load is said to provide additional security and the content can be changed at the server and a number of workstations updated from a central location. Available September 25, the Token-Ring Network Adaptor II costs \$850.

Local Area Network Adaptor For Ethernet

The Local Area Network Adaptor for Ethernet operates in AT bus PS/2 machines and it enables attachment to an Ethernet network using 10Base-T twisted-pair, 10Base-5 thick coaxial, or 10Base-2 thin coaxial media. Remote Initial Program Load is standard as is a five-year warranty. All models of the 8525, 8530, 8535, and 8540 PS/2 system units and the 7537 Industrial personal computer are supported by the adaptor. Available January 29, the LAN Adaptor for Ethernet is \$250.

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07804892 *This is the FULL TEXT*

LAN management systems: building workgroup solutions. (Hardware Review)
(overview of three local area network management system
evaluations)(includes related articles on network-management)
(evaluation)

Derfler, Frank J. Jr.

PC Magazine VOL.: v8 ISSUE: n20 PAGINATION: p285(11)

PUBLICATION DATE: Nov 28, 1989

ARTICLE TYPE: evaluation

AVAILABILITY: FULL TEXT Online LINE COUNT: 00169

SPECIAL FEATURES: illustration; chart; table; photograph

CAPTIONS: How LAN management systems gather information.; Network
management: summary of features.

SOURCE FILE: CD File 275

PRODUCT NAME(S): Synoptics Lattisnet (Local area network); Remote
LANview-PC (Computer network software); TokenVIEW-4 (Computer
communications equipment)COMPANY NAME(S): Synoptics Communications Inc. - manufactures; Cabletron
Systems Inc. - manufactures; Proteon Inc. - manufactures

DESCRIPTORS: Network Management; Evaluation; Local Area Networks

SIC CODE: 3571

TICKER SYMBOL: CS; SNPX

LAN Management Systems LAN management systems hold a special place in the world of networking software. Unlike the accounting, database, e-mail, and workgroup productivity packages reviewed in this issue, these products are designed only for the network manager. None of these systems sends communications across a network, and one of the products doesn't even have to run on a PC. Their function is to provide the manager with a great deal of control over network activity by gathering data from special wiring hubs at the geographic center of the LAN.

The field of network management systems is confusing, primarily because network control and reporting take place at so many levels. There is a hierarchy of devices and programs at several levels reporting status and problems upstream to an overall data-gathering and reporting system.

The lowest level of network reporting devices consists of hardware with internal microprocessors and programming.

These devices include LAN wiring hubs, bridges, multiplexors, microwave radios, and modems. Their internal processors and programs gather statistical information and send out status reports to some intermediate level of software, usually running on a PC. If the network is not large and is composed of relatively homogeneous parts, these systems might provide all the analysis a manager needs.

The LAN operating systems in printer and file servers can also send alerts and notifications to higher-level management programs. At the highest level, management and control programs will accept alarms from any reporting device that can send them along in the right format; for instance, application programs can complain to management programs about files that they can't find or access. The reports from all these levels of hardware and software must be in some common format so that one top-level system can compile them and present them to users.

There are competing grand architectures for network management and control, marketed by companies such as IBM, DEC, Hewlett-Packard, and AT&T. At the same time, there is an attempt to standardize network management protocols and procedures within the International Standards Organization itself.

This review concentrates on the lowest-level smart reporting devices and the programs that gather their reports. Though these systems reside on the lowest level of the stack, they provide a great deal of information. These packages are uniquely independent of the LAN operating system software and soon will fit into most of the grand management-architecture schemes. If LAN control and management are important to you now, or if they will be in the next few years, you should invest at this level first. It's one LAN decision that you have to make early.

ALARMS AND ACRONYMS

The whole network management and control industry has one common trait: reliance on the principle of performance alarms. When you use alarms, you're instructing the software to call your attention to any abnormal event. It's up to you to define the limits of abnormality--more than 30 consecutive Ethernet packet collisions, for example, or an unusually small or large number of packets sent within a specified period of time. The network management and control software packages' responses to alarm situations range from silently logging the event to frantically flashing symbols on the screen and beeping while sending error messages to a printer.

Of course, a blizzard of inevitably complicated acronyms surrounds the highest level of network management architecture. Picture these architectures as the underlying scheme you might use to plan a network management control center that looks like a small version of NASA's Mission Control. These architectures are particularly suited to big networks, which might need the higher level of reporting and the increased detail they can provide. However, big networks are made up of a lot of little networks with many nodes--most of them PCs. Each of the nodes in all of the little networks has to report to the big system. Like so many other things in the PC arena, there are several solutions: the ideal for which everyone hopes, a system that is working today in government and university networks, and IBM's own unique approach.

ALL ABOUT ISO CMIP

The management structure that everyone is hoping for comes in the form of an emerging open architecture called the Common Management Information Protocol, or CMIP (pronounced see-mip). The International Standards Organization (ISO) is currently working on the CMIP proposal. Major companies such as Digital Equipment Corp., AT & T, Hewlett-Packard, and Northern Telecom say that they will release network products that follow the established CMIP protocols.

The ISO draft standard primarily defines the functions of network management software and explains how reports are formatted and transmitted. The standard also describes the format of the messages sent to devices trying to correct or isolate error conditions. The functions that the ISO model defines include the following types of network management: fault, configuration, performance, security, and accounting. The other models

described below agree with these definitions in general terms.

Fault management includes detecting problems and taking steps to isolate them. Configuration management provides messages to describe active connections and equipment. It is closely tied to fault management, because the primary way to isolate network faults is to change configurations. Performance management includes counting things like packets, disk-access requests, and the number of times specific programs are used. Security management involves alerting managers to unauthorized access attempts at the cable, network, file server, and resource levels. Accounting management involves billing users for the applications and data that they access.

The announcements from Digital Equipment Corp. bill the company's planned CMIP-compatible network management system as the Enterprise Management Architecture. AT&T calls its system the Unified Network Management Architecture (UNMA). The first product released under AT&T's UNMA, and the first real CMIP product on the market, is the Accumaster Integrator.

CMIP is a great idea, but the protocol is still evolving. It will be a year or more before many practical products that support it hit the market.

IN THE MEANTIME

Since the need for a LAN control and reporting system has existed for a number of years, people have solved the problem in several ways. The control and reporting system used on-line today in many major networks is called the Simple Network Management Protocol (SNMP). SNMP was developed and is used by the same Federal government and university community that brought out TCP/IP and its suite of protocols (see "Building Work-group Solutions: TCP/IP for Multiplatform Networking," PC Magazine, June 27, 1989). SNMP works well in the large defense and commercial networks that use TCP/IP, and there are plans to evolve SNMP products into CMIP products. Proteon, whose TokenVIEW-4 product is reviewed here, also markets OverVIEW, a high-level data-gathering network management system for MS-DOS that gathers SNMP reports.

IBM's unique network management products debuted in early 1986. The overall system is called NetView, and the architecture relies on PCs running NetView/PC software to gather data on the network and to report to the NetView program running on a mainframe. Perhaps because the first version of NetView/PC required that a computer be dedicated to reporting on every network, or perhaps because NetView itself requires considerable mainframe resources, NetView/PC did not capture a large part of the market. IBM now markets a version of the NetView/PC software that requires OS/2 and that can collect data from several networks. IBM has also announced plans to evolve NetView to comply with CMIP sometime in the 1990s.

BACK DOWN TO EARTH

Since most people don't need a network management system that NASA could use to control deep-space probes, we have excluded such systems from our review. We have also bypassed the statistical and security-related network management utilities contained in network operating systems like Novell's NetWare and Banyan's VINES; these utilities don't tell you much about the activities of remote printers, communications gateways, mail servers, database servers, routers, and other devices on the LAN. If you want a full picture of the activity and health of a network, you have to go to the lowest common denominator: the physical layer of network cabling.

The products we've looked at rely on a centralized wiring hub to monitor and report on the status of network nodes. From its central vantage point, a wiring hub sees every node and can measure the number and quality of packets that the node sends. The on-board processors in these hubs work with software running in a PC to report on and control--mainly by disconnecting--all network nodes. Although our tests showed that none of these programs were able to send alerts to high-level programs, that capability should be available in the future.

These packages use a variety of different wiring schemes. Proteon's system works only with Token-Ring networks. The products from Cabletron Systems and Synoptics Communications use twisted-pair or fiber-optic wiring, or a combination of the two. Synoptics plans to expand its system to include Token-Ring and thin Ethernet by late 1989. If you want to run similar software on a Macintosh, Farallon Computing of Berkeley, California, markets TrafficWatch, which reports on and manages networks using Apple's Local-Talk architecture.

As soon as we set up these systems in the PC LAN Labs, it became clear that Synoptics has everyone beat in the areas of user interface and flexibility. Although its lack of a Token-Ring connection provides Proteon with a clear lead in that area, Synoptics is trying to close the gap quickly. The Synoptics software we saw does not forward alarms to higher-level programs, but it should be compatible with IBM's NetView by this fall.

COST FACTORS

It is difficult to break down the added incremental cost for network management capabilities in these systems. If you use the wiring hubs (or "concentrators," as they are sometimes referred to) from these companies, the hardware will include major elements of the network management features. Additionally, while the initial cost for software and hardware is usually several thousand dollars, that single cost is amortized over all of the nodes you now have and those that you will add in the future. Since larger networks usually benefit most from network management and control, the per-node cost is typically very small.

By themselves, these products provide all of the network management and control that many organizations will ever need. But if you think your network will grow with multiple servers, gateways, bridges, and wide area connections, you'll soon find yourself thinking about adding more layers of reporting. Looking for CMIP or SNMP compatibility in all of your network components is a smart idea, but starting to install reporting and control now at the lowest hardware layer is no less crucial.

DIALOG(R) File 275:Computer Database(TM)

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11106619 *** FULL TEXT RECORD ***

TITLE: Robo to the rescue: CIS' new Robo products address your system security and resource accounting needs. (Computer Information Systems Inc.) (product announcement)

AUTHOR: Brooks, Roseann McGrath

JOURNAL: DEC Professional VOL: v10 ISSUE: n8 PAGINATION: p26(1)

PUBLICATION DATE: August, 1991

ARTICLE TYPE: product announcement

AVAILABILITY: FULL TEXT Online LINE COUNT: 00059

SOURCE FILE: CD File 275

ABSTRACT: Computer Information Systems Inc (CIS, Newton, MA) introduces the RoboSecure system security and RoboCharge system resource accounting and chargeback software packages for the DEC VAX/VMS line of computers. RoboSecure identifies, analyzes and explains security problems in the VAX/VMS User Authorization File, system settings, network authorization, files, volumes, queues, logical name tables, global sections, identifiers, terminals and installed images. RoboCharge collects data (manually or automatically) and manages resource accounting, project accounting, chargeback and capacity planning functions. Specific applications include managing rate schedules, shift and uptime reporting, batch and print queues, LAT ports, charges, vector processing and graphics. Both packages feature a DCL user interface and handle single, networked or clustered configurations of VAX/VMS computers. Licenses for the software packages range from \$500 to \$9,000, depending on the host VAX/VMS system.

OPERATING PLATFORM(S): VAX/VMS

PRODUCT NAME(S): RoboSecure (Data security software) - Product

- introduction; RoboCharge (Accounting software) - Product introduction

COMPANY NAME(S): Computer Information Systems Inc. - Product introduction

SIC CODE: 7372

ISSN: 0744-9216

DESCRIPTORS: Security Software; Product Introduction; Resource Management; Accounting; Software Packages

FULL TEXT:

CIS (Computer Information Systems) has introduced two new products in its line of Robo software for VAX/ VMS: RoboSecure, which is a system security tool, and RoboCharge, a resource accounting and chargeback product.

RoboSecure diagnoses system security problems and provides the information needed to solve those problems. Using an investigative tree strategy, RoboSecure automatically identifies and explains security problems.

Designed to free the security manager from investigative work, RoboSecure automatically examines problems in relevant categories in the following security domains: User Authorization File (UAF), network authorization, system settings, files, volumes, queues, terminals, bad identifiers, logical name tables, global sections and installed images.

RoboSecure provides overall security ratings for each node being audited. It analyzes the problems and establishes an investigative path to show what is wrong and why it is wrong.

After diagnosing the problems, RoboSecure provides information to eliminate them from the system. It then offers a range of optional solutions to the security manager, including the ability to generate a

command procedure to correct any holes found in the investigation, save the satisfactory security settings as a model, maintain multiple models for different nodes, edit an established model and compare any two established models:

Its DCL interface and transparent handling of single-node, clustered or networked configurations makes RoboSecure accessible to the VAX security manager. While RoboSecure supplies default problem definitions, you can also tailor problem definitions to meet site-specific security needs.

The second product, CIS' RoboCharge, is a resource accounting and chargeback product. Its major areas of operation include resource accounting, project accounting, chargeback and capacity planning.

Because RoboCharge uses a DCL command-line interface, resource accounting and chargeback features look and act like part of VMS. RoboCharge handles single-node, clustered or networked configurations transparently, and it uses VMS security exclusively.

RoboCharge includes support for shifts, uptime reporting, rate schedules, charges, LAT ports, image accounting, subprojects, batch and print queues, vector processing and graphics. It can collect data either manually or automatically following user-defined policies. It can also maintain resource data at a user-specified level of detail.

RoboCharge's reporting feature lets you control the data included, resources reported and level of summarization. Its project accounting feature tracks resource usage by projects. Chargeback lets you generate sales reports and invoices from the data collected by RoboCharge.

Software licenses for RoboCharge and RoboSecure cost \$500 to \$9,000 each, depending on CPU.

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RECORD

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07961684 *This is the FULL TEXT*

IBM announcements. (product announcement)

Computergram International ISSUE: n1324 PAGINATION: CGI12110005

PUBLICATION DATE: Dec 11, 1989

ARTICLE TYPE: product announcement

AVAILABILITY: FULL TEXT Online LINE COUNT: 00089

SOURCE FILE: CD File 275

PRODUCT NAME(S): OS-2, Standard Edition 1.0. (Operating system) - equipment and supplies; IBM PS-2 (Microcomputer) - aids and devices

COMPANY NAME(S): International Business Machines Corp. - product introduction

DESCRIPTORS: Device Drivers; Modems; Data Communications; On-Line Searching; Windowing; Video Systems; Local Area Networks

SIC CODE: 7372; 3577

TICKER SYMBOL: IBM

IBM Announcements

IBM tries out down-line loading of device drivers for OS/2

between releases in the US

IBM in the US is trying out downline distribution of device drivers for OS/2 with a pilot OS/2 Electronic Device Driver Distribution Mechanism that will enable the device drivers to be distributed independently of any releases of OS/2. It is meant to complement other methods of device driver distribution, including incorporation of selected device drivers in OS/2 releases and delivery of device drivers with associated hardware devices. For licensees of OS/2 with a modem that supports 1,200bps or more, the Personal Computer User Group has expanded its facilities to provide 24 hour direct end-user access to the device driver file sections. Its Support Bulletin Board contains the OS/2 device drivers in a format suitable for downloading. The requirements for asynchronous electronic connection to the Bulletin Board are communication software capable of supporting X-Modem file transfer protocols, and a switched telephone line. The modem should be set to eight data bits, one stop bit, no parity, and a standard transmission speed from 1,200 bps to 9600bps. The offering includes a LaserPrinter device driver for OS/2 Standard and Extended Edition Versions 1.1, supporting multiple graphic resolutions, multiple paper sources, font cards, and downloaded fonts. The OS/2 Electronic Device Driver Distribution Mechanism, and the LaserPrinter device driver are available in the US, and a Printer Control Language device driver that supports printers compatible with the Hewlett-Packard LaserJet I and II series will be available from January 31, 1990.

PS/2 Leased Line Modem board

The PS/2 Leased Line Modem provides synchronous transmission on leased telephone lines with Communication Network Management for PS/2 models 50, 60, 70 and 80. It can transmit at data rates up to 14.4Kbps over leased telephone lines. The modem includes a two-wire dial back-up coupler and the functions of communication network management modems operating with NetView. A full length board, it attaches to a PS/2 Communication Adaptor via the external EIA-232 interface. The PS/2 Leased Line Modem provides Link Problem Determination Aids when operating with NetView. It is a member of the 786X Modem family, and equivalent to the 7861 Model 16. It is the user's responsibility to provide adequate lines for modem throughput when

the 14.4Kbps speed from the tributaries on multipoint lines is selected, and 'D' conditioning may be recommended on some lines. IBM says that key characteristics include three speed modes of 14.4Kbps defaulting to 12Kbps; 9.6Kbps falling back to 7.2Kbps, and 4.8Kbps falling back to 2.4Kbps; Telco line, four-wire leased, point-to-point or multipoint; synchronous FDX or HDX transmission; two-wire Switched Network Backup with auto-answer; contact operate; communication adaptor interface ANSI/EIA-232D; and communication network management support by LPDA-2 from data processing host site. The full size adaptor card attaches to the Multiprotocol/A Communication and RTIC Multiport/2 Communication Adaptors. Other features include remote control for setup, operation, and diagnostics from another 786x Modem or from NetView. The modem costs \$1,862 here in the UK, \$3,335 in the US, and is available from December 29.

Dealing Room Online Network for PS/2

DR-One, the Dealing Room Online Network Environment, is a Vendor Logo trading system that originated with Australian company BS Microcomp Pty Ltd, and allows simultaneous information distribution and contributory updates to financial services, along with access to host and personal computer-based applications. Delivered on a PS/2, it accommodates video as well as digital data in a windowed environment. The local area network also provides advisory and support areas with subsets and extensions of these functions. Additional programs, such as Application Toolkit, Director, Real-Time Spreadsheet, and Local Area Network Asynchronous Communication Services Configuration Program, provide application extensions. The Application Toolkit allows for the development of programs that interface to DR-One digital page servers. Director allows the sharing and concurrent viewing of text mode applications across the network, and it enables each dealer station to "connect" remotely the local keyboard to the remote personal computer. Real-Time Spreadsheet is a memory-resident server that works in association with Lotus 1-2-3 to provide real-time interfaces to the DR-One page servers. The Configuration Program configures the Local Area Network Asynchronous Communications Server automatically, rather than manually, and provides gateway access to host computers and remote services. Other features, including terminal emulations for attachment to a variety of IBM and non-IBM host computers, are supported through Real-Time Interface Co-processor asynchronous gateways, 3270 and 5250 gateways. The blackboard server provides an in-house information service enabling authorised users to disseminate news and market alerts, and to customise pages and workstation displays to traders' requirements. Environment Manager Service controls and manages each server and workstation, and provides real-time network monitoring and statistical network usage reports. The DR-One Environment Manager Service costs \$20,000, and the PS/2 is \$5,200. Reuters and Telerate Page Servers are \$20,000, the Blackboard server is \$16,000, and the video interface server is \$20,000. A DR-One application toolkit costs \$8,750, the director server and configuration Program both cost \$950, and a real-time spreadsheet is \$3,950. All are available immediately in the US.

So farewell then 370/158, 168, 3033...

IBM gives notice that lease and rental and maintenance agreements will terminate on June 30 1992 on 3033, 3032 and 3031 mainframes, 3370 A01, A11, B01, B11 disks, the 370/158 and 370/168 mainframes; the 3838 array processor from Floating Point Systems, and 3880 B13 controller. Those with 3310 disks, 3410 tape drives - and 3525 card punches for heaven's sake! - can rest easy until June 30 1994.

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Reap the rewards of LAN inventory programs. (local area networks) (includes related articles on peer-to-peer LANs, antivirus programs, network management tools and program development) (Software Buyer's Guide: LAN Inventory) (Overview)

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PC Sources VOL.: v3 ISSUE: n8 PAGINATION: p485(7)

PUBLICATION DATE: August, 1992

AVAILABILITY: FULL TEXT Online LINE COUNT: 00260

SPECIAL FEATURES: illustration; table; chart; graph

SOURCE FILE: CD File 275

OPERATING PLATFORM(S): MS-DOS; NetWare

DESCRIPTORS: Local Area Networks; Network Management Software; Software Selection; User Needs; Configuration

ISSN: 1052-6579

Maintaining a network is a lot like tending to a large family. You have to keep track of everyone's whereabouts, monitor who needs what and in what size, settle conflicts, and do plenty of troubleshooting.

Network administrators have a similar fate. They have to monitor the hardware and software installed on each node, find out what components users need, troubleshoot faulty connections, and resolve compatibility problems. And network administrators have the added burden of monitoring the server, keeping an eye on network performance, and tracking product and warranty information. Combine these tasks with the multitude of systems, components, and annual software upgrades in most offices, and you'll realize why LAN inventory programs are a LAN administrator's most valued colleague.

This wasn't always the case. Not long ago, taking inventory of PC hardware required lots of time and an arsenal of utilities. Typically, an information systems manager enlisted the aid of employees, each equipped with Norton's System Index or a utility like TouchStone's CheckIt. Employees would run these utilities on each workstation and report the results, such as the type of processor, its speed, the size of the hard drive, and type and amount of memory. Then they had to input their findings in a database so it could be easily tracked, queried, and reported.

After all that, the database still lacked valuable configuration data, such as interrupt assignments. And to install a new card, you still had to open the computer's case and examine switch settings on the installed boards to avoid conflicts.

Then there was the software to consider. As hardware prices dropped, hard drives increased in size, and network users began installing more and more programs on their local drives. But to inventory software, you again had to visit each workstation, and issue the DOS TREE and DIR commands to reveal the installed applications, a tedious, labor-intensive task.

In 1989, Atlanta-based Magee Enterprises, publisher of AutoMenu, shipped the first network-based inventory program, Network HQ. This program raced across network connections and collected data on each node's hardware, recording it in a central database. Around the same time, to combat piracy, the Software Publishing Association developed a program that scanned hard drives and inventoried the software installed. This package

was subsequently licensed to many publishers of software inventory programs.

Today's LAN inventory programs go even further by letting you gather more information on both hardware and software installed on network nodes and the file server. Most programs can also detect the software version number, and let you modify the database by adding more software titles--both commercial programs and those developed in-house. In this month's Software Buyer's Guide, we take an in-depth look at five programs that inventory networked hardware and software, and the number is growing. (See the sidebar, "LAN Inventory Programs in the Works.")

The Net Effect

LAN inventory programs, which typically install on a network file server, automatically collect and centralize information about the hardware and software installed on your network. Because these programs read this data directly into a database, they eliminate the typos and related errors that can be introduced when inventory data is gathered manually.

Yet these programs don't just help manage current resources. They can also help you plan for upgrades, thanks to sophisticated reporting capabilities that let you extract only those records that meet certain criteria. For example, since most LAN inventory programs track the software version number, you can generate reports--on-screen or on paper--that show you which users haven't yet upgraded to DOS 5.0. Many programs also let you enter software serial numbers, so you can determine whether any nodes are running unlicensed copies. 26

You have the same flexibility when reporting on hardware. For example, if you're planning to upgrade DOS workstations to Windows 3.1, you'll need to know which nodes need CPU or memory upgrades. By querying your inventory database to display all nodes with less than a 386 processor and 4MB of RAM, and under 10MB of available hard drive space, you can easily identify those that need to be upgraded and the components you'll need to order. 28

The configuration information you can glean from the inventory database is also helpful when it's time to install and run the software. To operate with NetWare, for instance, Windows requires network shells on the workstations that include two files: IPX (a version no earlier than 3.1) and NETx (no earlier than 3.26). Using an inventory program, you can quickly identify the number of workstation shells that must be upgraded, and which workstations need the upgrade. Without a LAN inventory program, plotting the logistics of such an upgrade would be an enormous task. With it, the job can be done in a fraction of the time.

Deciding Factors

Your first consideration in choosing a LAN inventory program is to find out which ones operate on your network operating system. Although all the programs highlighted in this buyer's guide support Novell's NetWare, you can't take it for granted that they support the NetWare version you're running.

For example, some inventory programs are designed specifically for either NetWare 2.x or 3.x. And some of the programs reviewed also provide separate versions, or separate install routines, for Banyan VINES and LAN Manager. In addition, there are only a few programs that can collect data over peer-to-peer LANs. (See the sidebar, "Taking Stock of Peer-to-Peer

LANs.") And if your network supports Macintosh as well as IBM-compatible PCs, be aware that not all programs can inventory Macs; those that do include LAN Automatic Inventory and LAN Directory.

If your office has migrated to Windows, you may want a LAN inventory program with a graphical user interface. While most of the current crop of LAN inventory programs are DOS-based applications, several vendors will be offering Windows versions. For example, Horizon Technology's LAN Auditor, which was between versions at the time of our review, will install as a menu-driven DOS program or Windows application. But apart from the interface design, there'll be no difference between the DOS and Windows versions. They'll both collect the same data, and use similar query and reporting features, although you may find the Windows point-and-shoot approach easier to use. VisiSoft's hardware inventory program, VisiNet, another title that was between versions at press time--the company is adding software inventory capabilities--also has a Windows interface.

Another factor to consider when you're shopping for a program is whether you need to track standalone PCs or portables that aren't linked to the network. If you do, you'll want a program you can run on standalones, so you can inventory the unit and merge the results with your central database. In addition, some programs can automatically collect data across bridges and routers. Others gather information from multiple LANs to individual file servers or workstations, and only let you merge new or changed records with a central database, which reduces traffic across the bridge.

If you want a complete network solution, you should consider programs that do more than audit your LAN's hardware and software. For example, Frye's LAN Directory can be integrated with the firm's family of network management tools. (See the sidebar, "All in the Family: Related Network Management Tools.") Multima's NetKeeper has a help desk module that lets you set up a database of on-line help for company-wide use, and a separate one just for your support staff. And Track-It LAN from Blue Ocean Software has specialized databases to store information on purchase and work orders, and pricing, which is useful for cost-conscious managers responsible for product acquisition.

Then there are programs like CheckIt LAN, which perform system diagnostics, monitor network traffic, and even scan for viruses. CheckIt LAN must also be loaded as network-loadable modules (NLMs) or a value-added process (VAP), so it remains in the file server's memory and communicates with networked nodes via a TSR installed on each. LAN Directory, for its part, must be loaded as an NLM, though its architecture doesn't require TSRs to communicate with the nodes.

An NLM is a program the system administrator can load and unload as required on NetWare 386 servers; the NetWare 2.x equivalent is a VAP. The advantage is that NLMs remain in memory and can collect inventory data on demand; you don't have to wait for users to log in. The disadvantage to Check-It's NLM is that the TSR consumes memory on the nodes. To get around this, you can load it in high memory, or explore other installation options such as loading Watch, the TSR portion of the program, after users log out.

Investigating Inventory Features

The value you reap from a LAN inventory program depends largely on your needs. If you simply need a basic inventory of your hardware and software resources, then the accuracy and detail with which the program

reports its findings is the most important factor to consider. All the programs reviewed offer the basic hardware and software inventory polling features. Basic hardware polls recognize the CPU type; whether there's a math coprocessor; the types of memory installed and the amount available; the size of hard and floppy drives; network and video cards; and parallel and serial ports.

On the software side, this includes recording the DOS version that's in use, the contents of CONFIG.SYS and AUTOEXEC.BAT, and the name and version of installed applications.

However, some programs report more details than others. For example, while all programs report on the type of processor that's in use, not all tell you the machine's speed or the manufacturer. Programs also differ significantly in their ability to accurately scan for software. While they all offer software polling, programs such as LAN Automatic Inventory simply match the names of .EXE files to a database of executable names of popular programs. This doesn't always return accurate readings.

The filename WP.EXE, for instance, would be identified as WordPerfect, but it might actually be another word processing program with the same executable name. Fortunately, programs like LAN Automatic Inventory let you edit the data fields so you can correct the record.

Alternatively, some programs identify software by reading the file size and file creation date. Or they scan the contents of executable files and match significant strings to more accurately identify the software. Usually, these programs also supply the version number. And though they tend to be a bit more accurate when scanning hard drives, they will still often take a best-guess approach.

In addition, you'll find most programs let you manually enter additional fields and data into the database. A LAN inventory program, for instance, cannot possibly read warranty information from a workstation's hardware. But since you'll probably want to track this information, look for programs that let you customize the database. Similarly, you may want to modify the software database by adding the names of less popular commercial software or programs developed in-house.

There are also programs with a metering feature to ensure that the program is never being used by more than the number of users authorized under your company's site license. Others offer performance tests, diagnostics, and statistical reports that monitor network usage and traffic. Frye's LAN Directory, for instance, includes an NLM that can be loaded to inventory the file server, along with the workstations, and report on such matters as the server's memory and hard drive utilization.

Last but not least, some programs give you the option of displaying a message that lets users know their workstations are being inventoried.

Reporting Features

Though the data these programs gather is the core of their functionality, the real strength lies in their reporting capabilities--how well you can organize the information you have, enter a query, and produce a report that extracts the information you need from the database.

All the programs offer basic reports that let you report on hardware or software configurations by vendor or LAN node, for example. In addition, most programs offer filters, or templates you can use to customize reports.

You select the criteria you want applied, and the program extracts all matching records. For instance, some programs offer date range filters, or let you extract records based on the user's department, node address, or a specific hardware component.

For further customization, you'll either want a program with a full-featured database reporting engine or one that can export data in a dBase-compatible format, so you can use a third-party report generator to quickly identify and present the information you need. LAN Directory, for instance, features a full complement of logical operators for searching its hardware and software databases. While LAN Automatic Inventory offers only a limited number of search operators, you can export data in various formats so you can manipulate it with programs like dBase or Paradox, or a third-party report writer like R&R.

Many of these programs note changes in a workstation's configuration and store it in a history file or exceptions report. Often, you can readily identify when a user swaps equipment with another user. And for security purposes, this is useful in identifying and preventing theft.

Most programs track this information historically, noting each addition or subtraction of equipment from the workstation by the date it occurred. Some inventory programs, such as Frye's LAN Directory, let network administrators set thresholds and search the equipment database for workstations that do not meet them. You can, for instance, set a threshold of 10MB for hard drives to see which users are running out of storage space. To integrate the threshold feature with a real-time alert system, you'll want a program like LAN Directory or Check-It LAN, which links to software that can issue alerts.

LAN Inventory: Behind the Screens

Most inventory programs are designed to load into the workstations' memory when users log in to the network. The inventory program is started in one of two ways: from a batch file stored on the workstation, or from the network's system log-in script.

Those programs launched from a batch file on the workstation usually remain in memory after the inventory has been taken. Those launched as applications from the file server during log-in behave like any application: They quit when the job is done and return memory resources to the user. But with LAN inventory products, the application loads and quits automatically, with no user intervention.

But overall, inventory programs take a standard approach to their jobs. (See the sidebar, "Building an Inventory Database: The System Sources.") They interrogate the CMOS for setup data, and derive configuration information by reading the node's AUTOEXEC.BAT and CONFIG.SYS files, the IPX and NETx files, and other configuration files such as the Windows WIN.INI file.

Often, the software sends DOS function calls to the workstation or runs system diagnostics to glean still more information, such as what interrupts are in use, or to detect the presence of a math coprocessor or add-in card. Most packages go further, sending function calls to the workstation's BIOS to read its version and revision date.

Pricing, Service, and Support

Network products offer various licensing schemes. There are those that are licensed by file server, like Bright-work's LAN Automatic Inventory. This pricing scheme tends to be easiest for the LAN administrators with only a few LANs to oversee. As long as you install the program on a single file server, you can add as many users as you like and not breach your site license.

With other programs, you pay on a peruser basis, or by the number of workstations; Frye Computer Systems takes this approach. However, this can be trickier to monitor if you're in a large office where workstations are frequently added or removed from the network. Per-user price schemes are practical for situations where you're running the software across more than one LAN and collecting the data to a single central location. You simply license the software by the number of employees, without concern for the number of LAN nodes you're adding or removing.

Support and service practices vary. A few, like Frye, offer BBS support in addition to telephone and fax support. Technical representatives from almost all LAN vendors frequent Novell's forum on CompuServe (GO NETWIRE). And Netwire is an excellent place to post questions about network problems, as hardware and software vendors, and consultants who may have experience with the problem, are there to answer them. But generally, vendors recommend that your first call for support be to your reseller. These products are also widely available in the mail-order market from both software vendors and vendors who specialize in selling LANs and related networking products through the direct channel.

Utility Evolution

Unlike many software categories, which tend to grow more specialized, LAN inventory programs are becoming more diverse. Many companies are widening the scope of their inventory programs by supporting operating systems other than NetWare. And companies that publish other LAN utilities, such as Brightwork Development and Frye Computer Systems, are improving the integration of their inventory programs with other utilities in their product lines. Other vendors have started packing LAN inventory programs with extra features, like virus scanning.

So if you've already built a library of utilities, you may opt for a traditional inventory program. But if you need performance monitoring and diagnostics, you may want to consider more integrated packages. Network utility vendors are moving in both directions, providing greater functionality in traditional programs and offerings to meet any network administrator's needs.